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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,765	02/05/2002	David Wilson Beddome	90099009	9265

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EXAMINER

DUONG, THO V

ART UNIT PAPER NUMBER

3743

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/068,765

Applicant(s)

BEDDOME ET AL.

Examiner

Tho v Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,6-10 and 12-30 is/are pending in the application.
- 4a) Of the above claim(s) 14-17 and 20-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-10,12,13,18 and 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

A receipt of applicant's amendment filed 3/23/2004 is acknowledged.

Claims 1-3,6-10 and 12-30 are pending. Claims 14-17 and 20-30 have been withdrawn from further consideration.

### ***Response to Arguments***

Applicant's arguments filed 3/23/2004 have been fully considered but they are not persuasive. In response to applicant's argument that reference to the Kodumudi's planar section is not capable of deform thermally to accommodate variation in size of the radiator, applicant is advised to see Kodumudi's figure 2. As the radiator expands, the planar section (1) will expand to accommodate the expansion of the radiator until it breaks. Despite the fact that the planar section is easy to break, it still undergoes a thermal deformation before it breaks.

Applicant's arguments with respect to claims 1-4,10,12-13,18 and 19 in response to the rejection in view of Darragh have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 6-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Kodumudi et al. (US 6,328,098). Kodumudi discloses (figures 1-8) a heat exchanger comprising a core (4,5) having a thermally variable size; and a support structure comprises a thermally deformable member including a plurality of tie rods (2) and a first and a second strong back (3) positioned about the core, wherein each of the tie rods (2) is connected between the first and second strong back (3). Kodumudi further discloses (figures 3-8) each of the tie rods (2) and having a planar section (26,30,51,61) thermally deforms substantially the same amount or rate as the thermal variation in the core size to accommodate variation in the size of the core due to the structure of region of weakness (1) having a V-shaped section that allows the tie rod (2) to expand or contract freely with the core until the region of weakness is broken. As regarding claim 8, Kodumudi discloses (figures 2 and 4) that the planar section (30) at the region of weakness (1) is substantially aligned with a flow passing the planar section wherein the flow is defined as an air flow passes through fins (4) of the heat exchanger. As regarding claim 10, it has been held that the recitation that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. In re Hutchison, 69 USPQ 138. In the Kodumudi's heat exchanger, the tie rod (2) is physically mounted between two strong backs (3). Therefore, the tie rod (2) is capable of applying a compressive load to the strong backs (3) if the heat exchanger is contracted due to a cold fluid running through the tubes (5). (The tubes experiences more contraction than the tie rod)

Claims 1-3,6-10 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by G. T. Jackocks et al. (US 1,855,552). Jackocks discloses (figure 2 and page 2, line 91- page 3, line 10) a heat exchanger comprising a core (3) having a thermally variable size; and a support structure including a first and a second strong back (1,2) connected to two opposite ends of the core; the support structure comprises a plurality of tie rods (22,23) having a planar section (inner end of 22) that thermally deforms to accommodate the same rate of variation in the size of the core; the planar section is aligned in perpendicular to a flow passing the planar section; and the tie rods are connected between the first and the second strong back; the tie rod further comprises a center section (inner end of 22), a first end and a second end (the outer end of 22 and 23) wherein the center section has a thickness less than the thickness of the tie rod at the first end and a second end.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13,18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over G. T. Jackocks et al. Korczynski Jr. et al. (US 5,323,849). Jackocks substantially discloses all of applicant's claimed invention as discussed above except for the limitation that a set of thread are equipped at each end of the tie rod for mounting to the strong backs. Korczynski discloses (figure 1) a heat exchanger that has a tie rod (34) mounted between two strong backs (28,36) wherein the tie rod has a set of thread at two end of the tie rods for the purpose of mounting the

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tie rod to the strong back with ease of removal or installing the tie rod from or into the heat exchanger. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Korczynski's teaching in Jackcoks heat exchanger for the purpose of of mouning the tie rod to the strong back with ease of removal or installing the tie rod from or into the heat exchanger.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Tho Duong whose telephone number is (703) 305-0768. The examiner can normally be reached on from 9:30-6 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennet, can be reached on (703) 308-0101. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.



Henry Bennett  
Supervisory Patent Examiner  
Group 3700

Tho Duong

June 1, 2004